DOCUMENT RESUME

ED 462 810 EC 308 944

AUTHOR	Markowitz, Joy
TITLE	State Criteria for Determining Disproportionality. Quick Turn Around (QTA).
INSTITUTION	National Association of State Directors of Special Education, Alexandria, VA.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE	2002-02-00
NOTE	11p.
CONTRACT	H326F000001
AVAILABLE FROM	For full text: http://www.nasdse.org/forum.htm.
PUB TYPE	Information Analyses (070)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Classification; *Disabilities; Elementary Secondary Education; *Evaluation Criteria; *Evaluation Methods; Racial Composition; *Racial Discrimination; Racial Factors; Racial Identification; *Special Education; State Programs; Student Placement
IDENTIFIERS	*Disproportionate Representation (Spec Educ); Individuals with Disabilities Educ Act Amend 1997

ABSTRACT

This report is a brief analysis of the criteria states use to determine if there is a disproportionately high or low number of students from a particular racial/ethnic group receiving special education services, assigned to a disability classification, or placed in an educational environment. Recent information indicates that 29 states have adopted specific criteria to examine state and district data. The report begins by reviewing provisions under the Individuals with Disabilities Education Act that require states to collect and examine data to determine if significant disproportionality based on race is occurring with respect to identification and placement of students with disabilities. Findings from the review of the 29 states using specific criteria are then discussed. Ten states use a percentage point discrepancy to determine disproportionality. Under this system, the percentage of each racial/ethnic group in the total student population is calculated and then the percentage of each racial/ethnic group in each disability category is calculated. Ten states apply a statistical significance test to determine if their data are disproportionate. The use of other criteria in the remaining nine states is described. The report closes with a list of issues that should be considered regarding data collection. (CR)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 462 810

State Criteria for Determining Disproportionality. Quick Turn Around (QTA).

Joy Markowitz

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

EC 308 944

BEST COPY AVAILABLE

Quick Turn Around

Project Forum

QTA – A brief analysis of a critical issue in special education

State Criteria for Determining Disproportionality

February 2002

Joy Markowitz

Overview and Purpose

This QTA is a brief analysis of the criteria states use to determine if there is a disproportionately high or low number of students from a particular racial/ethnic group receiving special education services, assigned to a disability classification or placed in an educational environment. Recent information indicates that 29 states have adopted specific criteria to examine state and district data, whereas the others have not. The purpose of this document is to describe the criteria used across the country, not to endorse any single criterion or set of criteria.

Background

Although it was not until the Individuals with Disabilities Education Act (IDEA) was reauthorized in 1997 that states were required to collect special education data by race/ethnicity, for more than 20 years, educators, researchers, parents, advocates, and U.S. Department of Education (ED) have been concerned about the disproportionate number of students from non-white racial/ethnic groups receiving special education services. Disproportionately high numbers have been most disquieting, but low numbers have also raised eyebrows.

The IDEA specifies that state data be collected by race/ethnicity and disproportionality determined:

> *(1) IN GENERAL – Each State that receives assistance under this part, and the Secretary of the Interior, shall provide for the collection and examination of data to determine if significant disproportionality based on race is occurring in the State with respect to –*
>
> *(A) the identification of children as children with disabilities, including the identification of children as children with disabilities in accordance with a particular impairment described in section 602(3); and*
>
> (B) *the placement in particular educational settings of such children.*
>
> [20 U.S.C. §1418(c)(1)]

Although the requirement to collect data and determine disproportionality is clear, neither the law nor the implementing regulations specify what criteria should be used to determine significant disproportionality. According to the discussion published in the Federal Register on March 12, 1999 (Vol. 64, No. 48, p. 12652):

> *It is expected that the determination of disproportionality will involve consideration of a wide range of variables peculiar to each State including income, education, health, cultural, and other demographic characteristics in addition to race. Prescribing how the States should determine disproportionality and take corrective action would not reflect the varied circumstances exiting in each State and is not consistent with discretion afforded to States under the statute.*

As part of Project FORUM's work on its Cooperative Agreement with the ED's Office of Special Education Programs (OSEP), state criteria were examined and analyzed for this document. Research for this analysis began with the IDEA-Part B State Biennial Performance Reports for fiscal years 1997-98 and 1998-99. These reports were reviewed for information regarding criteria for disproportionality. If information was not found in their reports or clarification was necessary, states were contacted by telephone and electronic mail between August and December 2001.

Findings

Twenty-nine states have specific criteria for determining disproportionality—26 have a single criterion and three have multiple criteria.[1] The most common criteria are a percentage point discrepancy or a significance test. Please refer to Table 3 at the end of this document for a summary of the findings.

Percentage Point Discrepancy and Similar Criteria

Ten states use a percentage point discrepancy to determine disproportionality. To apply this criterion, the percentage of each racial/ethnic group in the total student population is calculated. Then the percentage of each racial/ethnic group in each disability category (or educational environment) is calculated. The percentage point discrepancy is the number of percentage points more or less than the expected percentage for each disability group. The *expected percentage* is the percentage of that racial/ethnic group in the total student population.

For example, in Table 1 below, the expected percentage of students with mental retardation who are White/Non Hispanic is 68—the percentage of White/Non Hispanic in the total student population. If the state's percentage point discrepancy criterion were 10, the only disproportionality would be a low percentage of White/Non Hispanic students in the category of mental retardation. However, if the state's percentage point discrepancy criterion were five, the conclusion would be that Asian/Pacific Islander and American Indian/Alaskan Native students are overrepresented and White/Non Hispanic students are underrepresented in the mental retardation category.

[1] It was not within the scope of this analysis to collect information on the process states used to establish criteria for determining disproportionality.

Table 1
Sample Population of Students

	White/ Non Hispanic	African American	Hispanic	Asian/ Pacific Islander	American Indian/Alaskan Native
Total Student Population	68%	18%	8%	5%	1%
Students with Mental Retardation	50%	21%	10%	12%	7%

The states that use percentage point discrepancy criteria and the specific point discrepancy can be found in Table 2.

Table 2
State Percentage Point Discrepancy Criterion

State	Percentage Point Discrepancy
Arkansas	> 8.5
Indiana	≥3
Iowa	≥10
Massachusetts	≥10
Michigan	≥5
Nevada[2]	≥5 and > 8.5
New Jersey	≥6
North Carolina	≥10
Pennsylvania[2]	≥5
Tennessee[2]	≥20

In Nevada's January 5, 2000 Biennial Performance Report, it is noted that the state examines its data using the percentage point discrepancies used by Arkansas (8.5) and Pennsylvania (5).

In addition to the ten states that use a percentage point discrepancy, four states use slightly different discrepancy criteria based on percentages or raw numbers.

- In Connecticut, disproportionality exists if the actual prevalence is less than one half or more than two times that racial/ethnic group's representation in the total student population.

- In West Virginia, the criterion for overrepresentation is two times the percentage of students in a racial/ethnic group found in the school district's total enrollment.

- In Delaware, the percentage of a racial/ethnic group in the total population is calculated and multiplied by .2. That product (in percentage) is the maximum percentage point discrepancy. For example, if Hispanic students make up 30 percent of the total school population, 30 is multiplied by .2 to obtain a product of 6. Hispanic students would be disproportionately represented if more than 36 percent or less than 24 percent of the students with a particular disability classification are Hispanic.

[2] Nevada, Pennsylvania and Tennessee use multiple criteria that are described later in the document.

- In Virginia, the discrepancy criterion is essentially the same as in Delaware; however, the calculations are done with raw numbers, not percentages. For example, if 40 students in a given disability category reflect that racial/ethnic group's representation in the total student population, more than 48 or fewer than 32 students would be disproportionate (8 is 20% of 40).

Statistical Significance Tests and Odds Ratio

Ten states apply a statistical significance test to determine if their data are disproportionate. This means that a statistical test determines if the actual number from a racial/ethnic group differs from the percentage of that racial/ethnic group in the total student population more than would be expected by chance. Five states use a *chi-square test* (Maryland, Missouri, New York, Oregon, and Texas), three use *z scores* (Nevada, Pennsylvania, and South Dakota), and one (Colorado) uses a *t-test*.[3]

In addition, one state (Wyoming) uses a *confidence interval* to determine disproportionality. A confidence interval takes into account the size of the particular population in question and provides the range of acceptable levels of incidence. A large sample would have a narrow confidence interval compared to a small sample, which would have a wider confidence interval.

Three other states (Alabama, North Dakota and Tennessee) calculate an *odds ratio*. In Alabama and North Dakota any value greater or lesser than 1.00 is reason to examine the situation for disproportionality. For example, in North Dakota the comparison is made to rates of identification for students who are white in order to provide a consistent benchmark. The following formula is used:

$$\frac{\#\ \textit{students in racial/ethnic group with a given disability}}{\#\ \textit{students in racial/ethnic group in total student population}}$$

$$\div$$

$$\frac{\#\ \textit{White, non-Hispanic students with a given disability}}{\#\ \textit{White, non-Hispanic students in the general student population}}$$

In Tennessee, for LEAs with a non-white student population of less than 20 percent, an odds ratio is calculated. If the ratio of non-white students in a particular disability category to white students in that category is greater than or equal to 2:1, additional steps are taken to address the disproportionality. For Tennessee LEAs with larger percentages of non-white students, a percentage point discrepancy is used (see Table 2).

Other Criteria

California determines disproportionality using the *E-formula*, which has also been adopted by Idaho. This formula is explained below.

[3] *p* levels vary and are noted in Table 3.

$$E = A + \sqrt{\ [A * (100 - A) \div N]}$$

E = maximum percentage of enrollment allowed for a racial/ethnic group
A = percentage of racial/ethnic group in total school enrollment
N = total number of students in special education

In Minnesota, disproportionality is calculated using the formula below. Any value greater than zero is an indicator of disproportionality.

$$\text{Disproportion} = (S\text{-}N) \div N$$

S = percentage of special education students in that racial/ethnic group
N = percentage of total student enrollment in that racial/ethnic group

In Mississippi, disproportionality is evident when the actual enrollment of a racial/ethnic group differs from that group's representation in the total K-12 student enrollment by more than two standard deviations. This amount is calculated as follows:

$$2\sqrt{T * P * (1 - P)}$$

T = Total number of students in a program or disability category
P = Proportion of the racial/ethnic group in the total K-12 enrollment

New Mexico calculates an *Equity Index* for each racial/ethnic group and disability category. This index is calculated by dividing the percentage of students with disabilities in a given racial/ethnic group by the percentage of all students in that racial/ethnic group. A quotient of 1.5 or greater indicates significant disproportionality.

Guidelines for Applying Criteria

Respondents from states with and without guidelines communicated informally that their states struggle with how to apply criteria in light of the fact that school district size and racial/ethnic composition may vary greatly within a state. When the number of students involved is very small, the use of percentages can be very misleading.

At least six states have guidelines for applying criteria. In North Carolina a school district must have at least 20 African American students receiving special education services before the criterion is applied. New Jersey school districts must have a minimum of 100 white males and 100 African American males to apply the criterion. In Arkansas, the criterion is not applied if the school district's student population is either 95 percent white or 95 percent non-white. As noted above, Tennessee has two criteria—one for LEAs with a non-white population greater than 20 percent and one for those with a non-white population less than 20 percent. Two states require a minimum number of students in a given data cell (e.g., African American students who have autism) before criteria are applied at the LEA or school level. Data cell minimums are 15 in Connecticut and 10 in West Virginia.

States without Specific Criteria

Although many states and the non-state jurisdictions do not have specific criteria to determine disproportionality, those SEAs typically examine their data in the following way. State special education data are disaggregated by race/ethnicity and carefully reviewed to identify racial/ethnic group percentages that differ from those in the total school population. Any observed differences are reason for further examination of the data and exploration into the possible causes. In states where examination of racial/ethnic data has not raised concerns, specific criteria are less likely to exist.

In states where there is very little diversity in the student population and consequently a school district may have few students in any given data cell, standard tests of significance may not be appropriate and the urgency to establish other specific criteria for determining disproportionality is often not present.

Important Issues to Consider

Although the focus of this document is to describe the criteria that states use to determine disproportionality, several concerns/issues emerged during the course of this analysis that are pertinent to mention.

- There is concern about the accuracy and utility of race/ethnicity data in light of the increasing number of children with mixed race heritage.

- There is concern about the assignment of a race/ethnicity category to individual students because the procedure is often not standard within a state or LEA. In some schools, an office staff person assigns a student's race/ethnicity based on observation, whereas in other schools parents/guardians are asked to designate the race/ethnicity of the child they are enrolling.

- There is concern about the commitment of resources based on data collections plagued by inaccuracy and inconsistency because determination of disproportionality in an LEA usually triggers the release of state education agency funds in the form of technical assistance or increased monitoring.

- Some states reported that disproportionality criteria were set to identify only districts with the most blatant disproportionality because there are limited state resources to address the problem.

- Some states' criteria for determining disproportionality identify overrepresentation but not underrepresentation.

- It is not clear from this analysis whether state criteria for determining racial/ethnic disproportionality take factors such as income, education, health, culture and demographics into consideration as noted in the IDEA implementing regulations (see page 2).

Concluding Remarks

Although 29 states have specific criteria for determining racial/ethnic disproportionality in special education, there is considerable variety in the nature of these criteria. Representatives from three states with existing criteria mentioned that their states are in the process of reviewing the criteria for possible revision or will be doing so in the near future. Many of the states that do not have criteria expressed great interest in more information about the use of such criteria across the country.

In early January 2002, OSEP issued guidelines for the upcoming Biennial Performance Reports (BPR) due May 31, 2002. These guidelines include a procedure for determining racial/ethnic disproportionality. The guidelines can be found at the following web address: http://www.ed.gov/offices/OSERS/OSEP/Monitoring/Biennial_Reports/index.html

On January 29, 2002, OSEP distributed "talking points" via e-mail for conference calls held with state and Regional Resource Center (RRC) representatives January 31 through February 4, 2001 on the BPR. In those talking points, it is noted that if states are currently using a formula to determine disproportionality that is different than the formula described in the OSEP BPR guidelines and the formula appears to be effectively identifying significant disproportionality, states may use the state formula when reporting data on disproportionality in the BPR. However, states are asked to provide the formula that is used.

This report was supported by the U.S. Department of Education (Cooperative Agreement No. H326F000001). However, the opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education, and no official endorsement by the Department should be inferred.
Note: There are no copyright restrictions on this document; however, please credit the source and support of federal funds when copying all or part of this material.

IDEAs that Work
U.S. Office of Special Education Programs

This document, along with many other FORUM publications, can be downloaded from the Project FORUM at NASDSE web address:

http://www.nasdse.org/forum.htm

To order a hard copy of this document or any other FORUM publications, please contact Carla Burgman at NASDSE, 1800 Diagonal Road, Suite 320, Alexandria, VA 22314
Ph: 703-519-3800 ext. 312 or Email: carla@nasdse.org

Table 3
State Disproportionality Criteria (N= 29)

State	*Nature of Current Criteria*	Additional Information
Alabama	*Odds ratio* ≠1.00	
Arkansas	Discrepancy > 8.5 percentage points	Not applied if LEA is 95% minority or 95% white
California	*E Formula* (see description in text)	
Colorado	Statistical test of significance based on *t* distribution	$p < .05$
Connecticut	< .5 or > 2 times the expected prevalence	Cell size must be > 14
Delaware	> 20% variation from the population prevalence	
Idaho	*E Formula*	
Indiana	Discrepancy ≥3 percentage points	
Iowa	Discrepancy ≥10 percentage points	
Maryland	*Chi-square* test of significant difference	
Massachusetts	Discrepancy ≥10 percentage points	
Michigan	Discrepancy ≥5 percentage points	
Minnesota	Discrepancy formula (see description in text)	
Mississippi	Difference of > 2 standard deviations	
Missouri	*Chi-square* test of significant difference	
Nevada	Examines data using criteria from AR, NM, & PA	
New Jersey	Discrepancy > 6 percentage points	Applied if LEA enrolls at least 100 white males and 100 African American males
New Mexico	*Equity Index* (see description in text)	
New York	*Chi-square* test of significant difference	
North Carolina	Discrepancy ≥10 percentage points	Applied if > 19 African American students receiving special education
North Dakota	*Odds ratio* ≠1.00	Criterion used as a preliminary benchmark to track future data
Oregon	*Chi-square* test of significant difference	$p < .001$
Pennsylvania	Discrepancy ≥5 percentage points & *z* – score	$p < .10$
South Dakota	*z* – score	$p < .05$
Tennessee	Discrepancy ≥20 percentage points or *odds ratio*	*Odds ratio* used if non-white student population in LEA < 20%
Texas	*Chi-square* test of significant difference	$p < .05$
Virginia	> 20% variation from expected raw number	
West Virginia	Double the percentage of students in a racial/ethnic group found in the LEA's total enrollment	Criterion applied only if the cell size is 10 or greater and signifies only disproportionately high representation
Wyoming	*Confidence interval* based on binomial distribution	

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

REPRODUCTION BASIS

☐ This document is covered by a signed "Reproduction Release (Blanket) form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☑ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").